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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

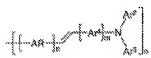
DETAILED ACTION

1. Claims 1, 5-8, 11-16, and 25 are pending. Claim 25 is new. Claim 20 has been cancelled.

2. The amendment does not place the application in condition for allowance.

3. Concerning new claim 25, Applicant has attempted to address concerning claim 20 with regards to 35 U.S.C. 112, 2nd paragraph. The claim is still not interpretable as written. The description of unit Z is not present in the claim.

4. Referring back to the original claims, variable Z is described by the structure shown below, and in the present claim, variable o states that it may be 2-6, where AR on Ar^2 or on Ar^3 or on both, may be bonded in the form of a dendrimer.



5. The structure shown clearly shows the unit in the first brackets with a single attachment point, with a repeat variable 'o' which in this case is 2-6. When a variable has a bond on only one side, and a repeating variable, it denotes multiple of the same unit attached to whatever the bond connects with. This is illustrated by each of the units Z in formula (I). Each has a single bond extending from the repeated unit, and the variable (in this case X), denotes that there may be multiple Z attached to each benzene ring.

6. However, when denoting repeating units where a particular substructure is repeatedly attached to **itself** (such as in a polymer or dendrimer), commonly used chemical notation shows two bonds to indicate that the repeating unit is bonded to itself.

This is illustrated in the structure above, in the case of unit $[AR]_n$ and $[Ar^1]_m$ which both have two bonds from the repeating unit, showing that the repeating unit bonds to itself. For instance $[Ar]_3$ would mean -Ar-Ar-Ar- in a chain.

7. In this case, the repeating unit has only a single bond, denoting that it is repeatedly bonded to a **different unit** (which is undefined in this case). In order to indicate that the substructure is repeatedly bonded to itself a second bond would be necessary to show that the material is repeatedly bonded to itself. This is not given in this case, and therefore the claim is not interpretable.

8. Concerning claims 1, 5-8, and 11-16, Applicant argues that there is no motivation to use the hole transporting materials described by Steuber et al. in the mixed emitting layer described by Aziz et al. Aziz et al. teach that the use of a hole transporting material mixed with an emitting material produces the same effects of the present claims in terms of lifetime and driving voltage, as stated in the previous action. Applicant states that there would be no reason to use the hole transport materials described by Steuber et al. in the mixed layer, since the stability of the layer is not influenced by the glass transition temperature of the hole transporting compound, particularly when the hole transport compound is used only in a low percentage. Applicant provides no evidence to support the assertion that the glass transition temperature has no influence on the stability of the layer in a mixed layer, however.

9. However, the claims state ratios of between 1:99 and 99:1 (claim 1) (up to 99% hole transport material), 5:95 to 80:20 (up to 80% hole transport material), and 5:95 to 25:75 (up to 25% hole transport material). Only in the last case does the hole transport

material not make up the majority of the layer. Applicant's assertion is that the glass transition temperature of the material is irrelevant to the stability of the layer since the layer is mixed. However, while a mixed layer exhibits suppressed crystallization at or above the glass transition temperature, it does not prevent crystallization.

10. To illustrate, Han et al. (Thin Solid Films, vol. 273, no. 1-2, pp. 202-208, 1996) describe tests of mixed layer of TPD (a common triarylamine hole transport material) and Alq_3 (an emissive material). Han report that crystallization of the mixed layer occurs when the layer is heated and over time. (see section 3.3, pages 205-207, Fig. 7) Alq_3 has a high glass transition temperature, and did not crystallize under their testing conditions (80°C), while TPD crystallized readily. (see section 3.1, pages 203-204) In a mixed layer, a 1:1 mixture showed significant crystallization over time, resulting in a change in the photoluminescence. (see figure 7, and page 206) Furthermore, at high concentrations of TPD (98%), crystallization was clearly observed, but was more stable at 90% TPD, but crystallization was observed over time. However, lower concentrations of TPD also crystallized readily. (See last paragraph of page 206 and first paragraph of page 207). Clearly, while a mixed layer may be more resistant to crystallization, the mixed layer is not immune. Therefore, a material with a high glass transition temperature (such as the materials described by Steuber et al.) are desirable for mixed layered devices.

11. This is regardless of the fact that the materials described by Steuber et al. are known hole transporting materials, as clearly illustrated, while Aziz et al. discloses mixtures of hole transport materials with emitting materials. Therefore, the material

would be predicted to function in it's normal manner (as a hole transporting material) in the mixed layer described by Aziz et al., and it would for that reason alone, have been obvious to use a known hole transporting material (such as those described by Steuber et al.) in the mixed layer described by Aziz et al. since it would be reasonable to predict that the layer would produce a successful result.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL E. NELSON whose telephone number is (571)270-3453. The examiner can normally be reached on M-F 7:30am-5:00pm EST (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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